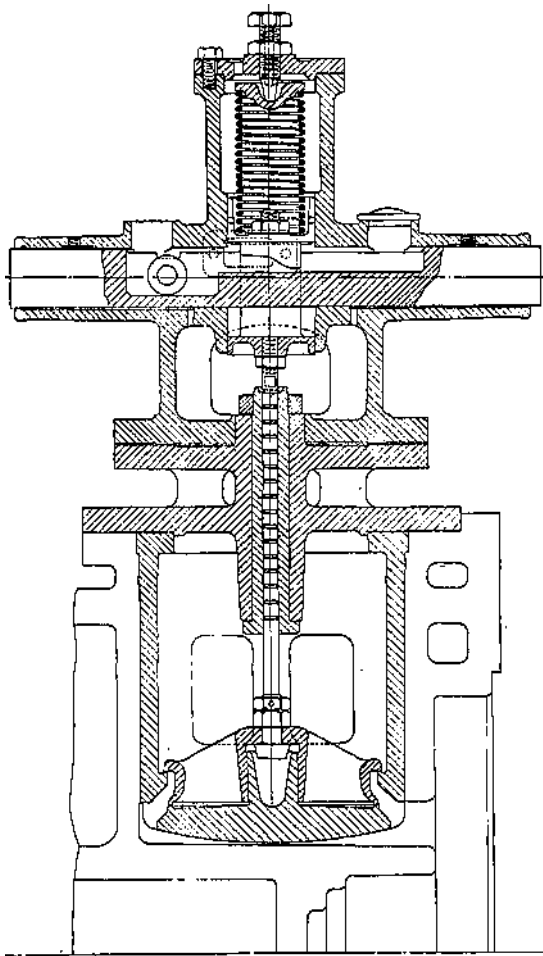


## STATIONARY ENGINES



method of regulation would on the whole cause less steam to be used compared with the regulation by the throttle, but the quick cut-off in itself has little effect upon economy. Latterly, drop valves have almost entirely displaced Corliss valves, and the former type only will be referred to. They require very little power to operate, and their construction allows a tight condition to be easily maintained by occasional regrinding on their seats.

An example of this type of valve with positive gear is given in fig. 17, which shows a design by Messrs. Musgrave & Co.

The variation in design of valve gears is very great, but the principles are the

Fig. 17.—Drop Valve by Messrs. Musgrave & Co.

same throughout.

In the case of Uniflow engines the cut-off is necessarily very early, in order to expand high-pressure steam in one cylinder down to condenser pressure, and the

whole movement of opening and closing the valve takes place during the time that the crank passes through a small arc only.

The time available for the engagement of trips would be so short that gears of this class are not satisfactory. So - called positive gears are usually employed, an example of which, made by Messrs. Musgrave & Co., is shown in fig. 17,

together with the closing spring, valve spindle, and the valve and seat. A dashpot is not required with this type of gear. A steel cam plate is fixed in a guide or piston attached to the valve spindle, and a roller, fixed in a groove in a bar sliding in guides in the cover and actuated by the eccentric, comes into contact with the cam face and lifts the valve, gradually at first, then quickly to its fully open position. This action is reversed on the return stroke of the slide bar, so that at first the valve closes rapidly, but later is lowered gradually and without shock on to its seat under the action of the